SIMON KRENGER (HTTP://WWW.KRENGER.CH/)

ORA-00845: MEMORY_TARGET not supported on this system (https://www.krenger.ch/blog/ora-00845-memory_target-not-supported-on-this-system/)

26. October 2012, by Simon Krenger

There is always something that gets in the way. One problem I regularly stumble upon when installing a new Oracle 11g R2 installation is the following error when I try to start the database:

```
SQL> startup nomount;
ORA-00845: MEMORY_TARGET not supported on this system
```

So I keep this post mainly for my own reference when installing a new database on a Linux system.

This error comes up because you tried to use the **Automatic Memory Management (AMM)** feature (http://docs.oracle.com/cd/E11882_01 /server.112/e25494/memory003.htm) of Oracle 11g R2. Well done, but it seems that your shared memory filesystem (shmfs) is not big enough. So let's look at the steps necessary to enlarge your shared memory filesystem to avoid the error above.

First of all, login as root and have a look at the filesystem:

```
[root@oracle-em oracle]# df -h
Filesystem            Size  Used Avail Use% Mounted on
/dev/mapper/vg_oracleem-lv_root
                      93G   19G   69G  22% /
tmpfs                 5.9G  112K  5.9G   1% /dev/shm
/dev/sda1             485M   99M  362M  22% /boot
```

So we can see that `tmpfs` has a size of 6GB. We can **change the size of that filesystem** by issuing the following command (where "12g" is the size I want for my MEMORY_TARGET):

Online Me

Xing
(https://www.xing.com
/profile
/Simon_Krenger)

LinkedIn
(https://www.linkedin.com
/in/simonkrenger)

GitHub
(https://github.com
/simonkrenger)

```
[root@oracle-em oracle]# mount -t tmpfs shmfs -o size=12g /dev/
shm
```

This command (re)mounts the shmfs filesystem (check this post
(http://www.cyberciti.biz/tips/what-is-devshm-and-its-practical-usage.html)
for more information about shmfs) with the option " `size=12g` ".

The shared memory file system should be big enough to accommodate the
`MEMORY_TARGET` and `MEMORY_MAX_TARGET` values, or Oracle will throw the
ORA-00845 error. Note that when changing something with the `mount`
command, the **changes are not permanent**.

To make the change persistent, edit your `/etc/fstab` file to include the
option you specified above:

```
[root@oracle-em ~]# cat /etc/fstab
[..]
tmpfs                        /dev/shm               tmpfs    size=12
g        0 0
[..]
```

In my case, I replaced the "defaults" option with the `size=12g` option. After
saving the file, the changes should be permanent. Now back to Oracle. Let's
see if we can start the database now…

```
SQL> startup nomount
ORACLE instance started.

Total System Global Area 1.1758E+10 bytes
Fixed Size                 2239056 bytes
Variable Size           5939135920 bytes
Database Buffers         5804916736 bytes
Redo Buffers               12128256 bytes
```

Bingo! Now go and enjoy your automatically managed memory
configuration!

Tags: Automatic Memory Management (https://www.krenger.ch/blog/tag
/automatic-memory-management/), Database (https://www.krenger.ch
/blog/tag/database/), installation (https://www.krenger.ch/blog/tag
/installation/), Linux (https://www.krenger.ch/blog/tag/linux/), ORA-00845
(https://www.krenger.ch/blog/tag/ora-00845/), Oracle 11g
(https://www.krenger.ch/blog/tag/oracle-11g/), Oracle Database
(https://www.krenger.ch/blog/tag/oracle-database/), Red Hat Enterprise
Linux (https://www.krenger.ch/blog/tag/red-hat-enterprise-linux/), Shared
Memory (https://www.krenger.ch/blog/tag/shared-memory/), Troubleshooting
(https://www.krenger.ch/blog/tag/troubleshooting/)

Comments

Oh no, **new comments are currently disabled**.

If you want to get in touch with me, please do so via e-mail:
simon@krenger.ch

How To Avoid Ora 01555 Error, on 2017-10-03 13:30:45 (Website
(http://softwarenagar.com/how-to-avoid-ora-01555-error/))

> […] ORA-00845: MEMORY_TARGET not supported on this system
> – So let's look at the steps necessary to enlarge your shared
> memory filesystem to avoid the error. ORA-00845:
> MEMORY_TARGET not supported on this system. […]

ramesh, on 2015-12-09 15:24:47

> thank you..:))

vamsi, on 2015-12-08 07:56:42

> thanks it worked...

thavone, on 2015-11-04 10:35:08

> Thank for good information to share ..I found "ORA-00845:
> MEMORY_TARGET not supported on this system" on my UAT
> server ,but i solve problem as you ..my server can startup and work
> again...

mike, on 2015-11-02 23:46:58

> I get: mount: invalid option -- 0 (using linux 5) Small test system
> Filesystem Size Used Avail Use% Mounted on /dev/hda2 8.2G 4.7G
> 3.2G 60% / /dev/hda3 3.0G 193M 2.6G 7% /tmp /dev/hda5 100G
> 58G 37G 62% /refresh /dev/hda1 99M 45M 50M 48% /boot tmpfs
> 2.0G 0 2.0G 0% /dev/shm $ $ df -k Filesystem 1K-blocks Used
> Available Use% Mounted on /dev/hda2 8574572 4825980 3306004
> 60% / /dev/hda3 3050092 196668 2695988 7% /tmp /dev/hda5
> 104069148 60738788 37958792 62% /refresh /dev/hda1 101086
> 45085 50782 48% /boot tmpfs 2025848 0 2025848 0% /dev/shm

pradeep singh negi, on 2015-10-14 07:17:42

> thanks it helps a lot.

Simon Krenger, on 2015-09-15 19:50:01 (Website (http://www.krenger.ch))

> Hello Gene, I would not increase tmpfs to a value that is larger than
> your available physical RAM.

Gene Heptonstall, on 2015-09-15 12:47:01

> Hi Simon, Up how high is it safe to increase the tmpfs? When I
> check free -t -m I have the following:
>
> ```
>              total        used        free      shared     b
> uffers     cached
> Mem:          6971        5400        1570           0
> 345       3283
> -/+ buffers/cache:        1772        5198
> Swap:        11999         391       11608
> Total:       18971        5792       13178
> ```
>
> My current df -h shows this value for /dev/shm: tmpfs 4.0G 1.8G
> 2.3G 43% /dev/shm Is it safe to increase the size of tmpfs up to 12G
> on this setup? Regards, Gene

shiva, on 2015-07-23 13:00:30

> A very nice article. But,server hanged when I update update
> /etc/fstab When removed /dev/shm from /etc/fstab It worked for me
> in 11.2.0.3.0 Red Hat Enterprise Linux Server release 6.4 (Santiago)
> for more information, please refer to (scroll down to check option 2)
> http://dbakumar.blogspot.sg/p/startup-failure-ora-00845-
> memorytarget.html

Anandh, on 2015-06-24 19:43:53

> Wow!! Thanks a lot. It worked for me.

BR, on 2014-12-31 01:28:15

> Thanks SOOOOO much!! Worked for me too!!

juve, on 2014-10-21 11:59:34

> Thanks Indeed,the solution as work very big.!!!

Frank, on 2014-05-02 23:41:56

> Worked for me. Thanks. Centos 6.5 & 11G.

Simon Krenger, on 2014-05-01 08:43:53 (Website (http://www.krenger.ch))

> Hello Pinaki, Yes, exactly. And unless you are also running an application server on the machine, consider allocating more than 90G for the databases. The reason for this is that the filesystem cache is useless for databases, as the database caches the blocks itself. Also consider using a large MEMORY_MAX_TARGET for all three databases (e.g. 50G for all databases) and setting MEMORY_TARGET to the values you mentioned above. This way, you can dynamically allocate memory during runtime, which is kinda handy.

Pinaki, on 2014-04-30 21:09:27

> Hi, Wanted to have clarification on the space needed for /dev/shm mapped as tmpfs. Exa : I have three instances hosted on one server having below memory targets. Instance X memory target: 40g Instance Y memory target: 30G Instance Z memory target: 20G Available physical memory is 120gb. So should i allocate 90g space to /tmpfs to host these three instances ? Thanks, Pinaki

russel, on 2014-04-26 03:56:37

> thanks a lot. i solved it

Peter, on 2014-04-15 10:24:38

> Thanks a lot, this saved a lot of time!

JOHN, on 2014-04-10 06:25:25

> great it works, thanks a lot

Aqeel, on 2014-04-04 01:16:38

> I have encountered the similar error while installing Oracle 11gR2. This article really helped.

Sunil, on 2014-03-25 08:08:19

> Thanks Bro It was really helpful , so simple and easy. Thanks a lots. Hv a nice day

srikanth, on 2014-03-14 03:29:41

> excellent option using this I installed 2 databases on one server
> thanks you so much

anoop, on 2014-02-28 14:04:06

> Thanks a lot

Moath, on 2014-01-14 07:22:33

> Many Thanks!

shakti, on 2013-11-16 13:13:14

> thanx

Simon Krenger, on 2013-11-13 18:02:30 (Website (http://www.krenger.ch))

> Hello Aniket, It seems that you have some other problem going on. I
> would like to refer you to MOS Note 160395.1
> (https://support.oracle.com/epmos/faces
> /DocContentDisplay?id=160395.1). Try to kill all database processes
> (get them with "ps -ef | grep $ORACLE_SID") and then retry to start
> the database. All the best, Simon

Aniket Khismatrao, on 2013-11-13 12:37:51

> SQL> startup ORACLE instance started. Total System Global Area
> 422670336 bytes Fixed Size 1336960 bytes Variable Size
> 260049280 bytes Database Buffers 155189248 bytes Redo Buffers
> 6094848 bytes ORA-01102: cannot mount database in EXCLUSIVE
> mode

DayWalker, on 2013-11-11 07:11:26

> this worked, thanks ! I had to do the following to change the size on
> the fly: mount -t tmpfs shmfs -o size=12g,remount /dev/shm

Mazhar, on 2013-10-31 15:00:13

> Thanks. worked for me :-)

Omer, on 2013-10-24 06:49:39

> Thankyou so much. it worked for me.

Prakash, on 2013-09-20 12:07:10

> Thank you very much for this solution. It worked for me perfectly, much appreciated.

Sandeep Singla, on 2013-08-22 09:36:44

> Thankyou very much for this information.

Mohan, on 2013-08-08 15:16:12

> Great tip, saved the day. Thks

John Mccane, on 2013-07-07 19:18:32

> Spot on this worked for me. Thanks very much for the blog. John

Uzzal Basak, on 2013-06-26 05:10:01

> Nice job Simon.. Thanks a lot Simon.

Mario, on 2013-05-03 05:21:55

> Thank's, It's a very helpful information, I'ts works for my.

Jaswinder, on 2013-04-03 10:15:28

> Thanks Simon...I am pleased to get that piece of information...!!!

Simon Krenger, on 2013-04-02 22:05:57 (Website (http://www.krenger.ch))

> Hello, thank you very much for your questions, I am happy to answer them for you:
> 1. You can find more information about tmpfs/shmfs in the Linux kernel sources (https://www.kernel.org/doc/Documentation/filesystems/tmpfs.txt)
> 2. 12g is a size appropriate for my database. For your database this should reflect the amount of memory you want to allocate for your database!
> 3. No, NOMOUNT does not start the database, but is used here because you usually hit this error when setting up a database, therefore before issuing CREATE DATABASE. Read up on the startup process in the Oracle database (http://docs.oracle.com/cd/E11882_01/server.112/e25494/start001.htm#i1006285).

Jaswinder, on 2013-04-01 06:50:52

> I have few queries related to your workaround mentioned in this
> post:
>   1. I would like to have more info on shmfs (what does it refer to
>   and its significance)
>   2. Why 12g is good (reason for this specific size allocation) and
>   its relation to MEMORY_TARGET
>   3. Startup nomount does not actually start the database (any
>   info...?)
> Thanks

aming, on 2013-03-18 18:24:40

> thank you verry much. I just have the problem under centos 6.3
> x86_64 and the solution has fixed my problem.

jatin, on 2013-03-12 11:04:15

> Thanks a lot.. Really thank you for such perfect resolution.

prithiv, on 2013-03-11 04:23:52

> nice one..gud work..thanks

pushpendra, on 2013-01-28 15:06:43

> really it worked fine.thanx.

Dirk Dollé, on 2013-01-10 10:56:24

> Thanks, it worked fine for me.

Simon Krenger, on 2012-11-28 11:45:34 (Website (http://www.krenger.ch))

> Oracle Support notes that there can be multiple reasons for this
> error:
>   • /dev/shm is sized too small (see article on how to fix this).
>   Make sure the instance can allocate the amount of memory it
>   needs and no other instances on the box use memory from
>   /dev/shm
>   • /dev/shm is not properly mounted, but that does not seem to
>   be the case here (df should return correct values)

nick, on 2012-11-26 21:46:58

My /dev/shm is tmpfs 12G 4.6G 7.3G 39% /dev/shm and I am having this issue. What else could I do to fix this issue? Thanks, Nick

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